

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001640**Date Inspected:** 24-Feb-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1630**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower and OBG Fabrication**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

Orthotropic Box Girder (OBG) and Tower Mock Up:

CWI Inspectors: Mr. Sun Wei, Mr. Chen Xi, Mr. Li Wen Sheng, Mr. Chen Chih-Ming, Mr. Wu Ming Kai

Bay 3

The QA Inspector observed ZPMC welder Mr. Dai Lu stencil 48659 is using shielded metal arc welding procedure WPS-B-P-2112-FCM to make fillet tack welds on OBG side plate stiffener welds SP471-001-040 and SP471-001-041. The QA Inspector observed THJ 506fe-1 E7018 4.0 mm diameter electrodes, a welding current of approximately 170 amps and a minimum base material preheat temperature of 40° C. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Zhang Feng stencil 49769 is using shielded metal arc welding procedure WPS-B-P-2112-FCM to make fillet tack welds on OBG PL510, side plate stiffener welds SP592-001-038. The QA Inspector observed THJ 506fe-1 E7018 4.0 mm diameter electrodes, a welding current of approximately 180 amps and a minimum base material preheat temperature of 40° C. Items observed by the

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QA Inspector appear to comply with project specifications.

## Bay 1

Earlier today QA Inspectors Mr. Greg Bertlesman and Mr. Larry Viars monitored ZPMC completing the flux core closed rib welding of PMT (Preweld Monitoring Test) plates for deck plate DP062. Flux cored weld passes were then made on deck plate DP062-001 closed rib welds. ZPMC then commenced with flux cored welding of deck plate DP061-001 closed rib welds prior to completion of making the submerged arc PMT welds. An incident report was issued with the following description:

“The Fabricator (ZPMC) performed welding on OBG Deck Panel DP061-001 in violation of an agreement between the Department and the Contractor (ABF). Welding was performed on DP062-001 prior to completion of visual inspection of the preceding closed rib production monitoring test (PMT). ABF and the Department previously agreed that only one production panel may be welded per PMT until the PMT is visually inspected and accepted by all parties. Deck panel DP061-001 was the second production panel that was welded following the performance of the PMT on 24-Feb-08. Deck Panel DP-062-001 was the first deck panel welded.”

During welding of Deck Panel DP-062-001 the QA Inspector observed the flux cored process welding measurements: Weld #5 operator Mr. Gao Xin Dong, stencil 59361 has a welding current of 350 amps and 30.5 volts, Weld #6 operator Mr. Hang Ting Guang, stencil 62265 has a welding current of 370 amps and 30.3 volts, Weld #5 operator Mr. Zhau Cheng Shuang, stencil 59403 has a welding current of 350 amps and 30.8 volts, Weld #6 operator Mr. Yuan Fen Chuan, stencil 59355 has a welding current of 345 amps and 30.8 volts.



## Summary of Conversations:

See above for summary of conversations.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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**Inspected By:** Dawson,Paul

Quality Assurance Inspector

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**Reviewed By:** Cochran,Jim

QA Reviewer